



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/537,128

06/02/2005

Johannus Leopoldus Bakx

NL021305

8392

24737

7590

08/17/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

ALI, FARHAD

ART UNIT

PAPER NUMBER

2109

MAIL DATE

DELIVERY MODE

08/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/537,128

Applicant(s)

BAKX, JOHANNUS LEOPOLDUS

Examiner

Farhad Ali

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 01/20/2006, 06/02/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeven (US 6,765,858 B2), in view of Pringle (US 4,791,668 A).

**Claim 1**

Hoeven discloses an arrangement for reading an information carrier, comprising  
a read head for scanning the information carrier along a scanning path and  
thereby generating one or more electrical signals in response to a pattern recorded  
along the scanning path ([Hoeven] Column 2 Lines 29-31, "a read head 4 for scanning  
the information carrier 2 along a scanning path and thus generating one or more electric  
signals");

a signal processing unit for processing the one or more electrical signals;  
electrical conductors for conveying the one or more electrical signals to the signal  
processing unit ([Hoeven] Column 2 Lines 64-67, "The arrangement further includes  
electrical conductors 6 for transferring the one or more electric signals V.sub.A-D to a  
signal processing unit 8").

Hoeven does not disclose the arrangement further comprises controllable  
termination means for terminating at least one electrical conductor with a selectable

impedance, the controllable termination means comprising at least two impedances and selecting means for selecting an impedance to terminate the at least one electrical conductor.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least n switching elements being connected between n of the resistor elements and an input of an amplifier".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance.

### **Claim 2**

Hoeven does not disclose an arrangement as claimed in claim 1 characterized in that the signal processing unit comprises the controllable termination means.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more

Art Unit: 2109

particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least n switching elements being connected between n of the resistor elements and an input of an amplifier".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance. It is furthermore obvious to incorporate Pringle's selectable impedance line interface circuit into the signal processing unit in order to save space and create one functional unit.

### **Claim 3**

Hoeven does not disclose an arrangement as claimed in claim 1, characterized in that the controllable termination means are able to terminate two or more electrical conductors with different selectable impedances.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device

Art Unit: 2109

includes at least  $n$  switching elements being connected between  $n$  of the resistor elements and an input of an amplifier”.

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance. It is furthermore obvious to duplicate the selectable impedance line interface circuit in order to handle multiple signals as doing so produces a predictable result.

#### **Claim 4**

Hoeven does not disclose an arrangement as claimed in claim 1, characterized in that the selectable impedance comprises a characteristic impedance of the electrical conductors.

Pringle Discloses: Column 1 Lines 38-41, “A line interface circuit may be adaptable to more than one characteristic impedance by providing metallic contact switches for selecting any one of a plurality of terminating resistances”.

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at

comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance. Furthermore, Pringle discloses using a characteristic impedance in the line interface circuit.

### **Claim 5**

An arrangement as claimed in claim 4, characterized in that the controllable termination means are able to select the characteristic impedance when reading the information carrier at a relatively high speed and select a higher impedance when reading the information carrier at a relatively low speed.

Pringle Discloses: Column 2 Lines 32-35, "A control means is connected to the switching device for controlling each of the switching elements to be of one of a high resistance state and a lower resistance state".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. Furthermore, Pringle discloses using a characteristic impedance in the line interface circuit. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have

Art Unit: 2109

a means for selecting the proper impedance i.e. characteristic (low) impedance for a high reading speed or a high impedance for a low reading speed.

#### **Claim 6**

Hoeven discloses an arrangement as claimed in claim 1, characterized in that one or more of the electrical signals are current outputs and in that the selectable impedance functions as a current to voltage converter ([Hoeven] Column 2 Lines 63-64, "A current-voltage converter 48 converts the current signals  $i_{\text{sub.A-D}}$  into voltage signals  $V_{\text{sub.A-D}}$ ").

#### **Claim 7**

Hoeven discloses an arrangement as claimed in claim 6, characterized in that the read head performs the scanning by transmitting a radiation beam to the information carrier and receiving a reflected radiation beam from the information carrier, and in that the arrangement further comprises measuring means for measuring the reflectance of the radiation beam, ([Hoeven] Column 2 Lines 45-63, "The read head 4 further has imaging means 42, 43 for imaging the radiation onto the information carrier 2 as a scanning spot 44. The read head 4 further includes imaging means 43, 45, 46 for imaging radiation that leaves the scanning spot 44 onto an optical detector 47. Said imaging means may include, for example, lenses, prisms, lattices, mirrors etc. In the present example, the imaging means comprise a convergent lens 42 and a focusing objective 43 to image the radiation beam generated by the radiation source 41 as a



scanning spot. Furthermore, a semitransparent mirror 45 is interposed between the convergent lens 42 and the focusing objective 43. Radiation which is reflected from the scanning spot 44 is imaged onto an optical detector 47 via the focusing objective 43, the semitransparent mirror 45 and an astigmatic element 46. The optical detector 47, shown in more detail in FIG. 3, comprises four sub-detectors 47.sub.A, 47.sub.B, 47.sub.C and 47.sub.D. The four sub-detectors 47.sub.A-D each generate a current signal  $i_{\text{sub.A}}$ ,  $i_{\text{sub.B}}$ ,  $i_{\text{sub.C}}$ ,  $i_{\text{sub.D}}$  which is indicative of an intensity of the radiation that is incident on the relevant sub-detector").

Hoeven does not disclose that the controllable termination means selects an impedance dependent on the measured reflectance of the radiation beam.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least  $n$  switching elements being connected between  $n$  of the resistor elements and an input of an amplifier".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have

Art Unit: 2109

a means for selecting the proper impedance. It is furthermore obvious to select the proper impedance based on the measured reflectance of the radiation beam as it is related to the reading speed which is taught to be monitored by Hoeven.

### **Claim 12**

Hoeven does not disclose a signal processing unit for use in an arrangement according to claim 2.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least n switching elements being connected between n of the resistor elements and an input of an amplifier".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance. It is furthermore obvious to incorporate Pringle's selectable impedance line interface circuit into the signal processing unit in order to save space and create one functional unit.

3. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeven (US 6,765,858 B2) as in view of Pringle (US 4,791,668 A), and further in view of Park (US 5,058,130 A).

### **Claim 8**

Hoeven does not disclose an arrangement as claimed in claim 1, characterized in that at least one electrical conductor is terminated with a selectable impedance which is selected by optimizing one or more parameters of the electrical signal conveyed by the at least one electrical conductor.

Park discloses a digital technique for achieving minimal occurrence of jitter, overshoot and undershoot in an output waveform in the filter for digital transmission ([Park] Column 1 Lines 11-15).

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit and Park's digital filtering technique. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds and Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance. Furthermore, incorporating Park's filtering techniques to select the desired impedance is

Art Unit: 2109

obvious to one of ordinary skill in the art as it teaches a necessary step needed to select the proper impedance and produces predictable results.

**Claim 9, 10, and 11**

Claims 9, 10, and 11 are rejected for the reasons stated in Claim 8 above.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether applicant is referring to a new signal processing unit or to the unit previously claimed in claim 1.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhad Ali whose telephone number is (571) 270-1920. The examiner can normally be reached on Monday thru Friday, 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey C. Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2109

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

F.A.

  
JEFFREY PWU  
SUPERVISORY PATENT EXAMINER